

September 25, 2007

DEQ Air Quality Program
1410 N. Hilton
Boise, ID 83706

DE/AFS/SF

RECEIVED

OCT - 2 2007

DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE A Q PROGRAM

Re: Air Quality Permit For Kootenai Fiberglass & Finishing LLC

Attn: Maury Lewis

Dear Maury;

I spoke with you several days ago about air quality permitting issues and questions I had pertaining to the permit process we will be going thru over the next few weeks.

I have downloaded and filled out what I believe to be the pertinent forms that pertain to our business and have also included a brief summary of our process as well as some supporting documentation I have obtained thru the ACMA (American Composite Manufacturer's Association). A report that is linked to the ACMA website covers the process we will be involved with quite thoroughly and I have included a copy of that report with the DEQ forms. I believe that the information provided by the report as well as that provided by the ACMA is the most current and applicable that you can find. I hope it assists your department in assessing our emission profile.

Please feel free to contact me at the enclosed number if you have any further questions.

Best Regards,

Greg Dziak, Owner, Kootenai Fiberglass & Finishing
509.251.4872

DE/AFS/SF

RECEIVED

OCT - 2 2007

DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE AQ PROGRAM

Overview Of Operation
Kootenai Fiberglass & Finishing

Prepared By: Greg M. Dziak, Owner

Date: 9/24/2007

1. Summary

Kootenai Fiberglass & Finishing (heretofore to be known as KF&F) is a proposed repair/service business to be located north of Coeur D'Alene, Idaho (Garwood area). The purpose of the facility is to provide cosmetic and structural repair for boats of fiberglass-based construction. Customers served will be both walk-in/referral types as well as those coming from local pleasure boat sales/service businesses.

KF&F is currently going thru the Conditional Use Permit (CUP) process (project number CUP07-0003). We have a hearing date set for October 16, 2007 and it is hoped that the information obtained in this review will assist those involved in this hearing regarding air quality issues.

2. Hours Of Operation

Anticipated hours of operation will be 8am to 5pm, Monday thru Friday and 8am to noon on Saturdays. Assume four holidays a year.

3. Work Process Summary

The following process summarizes a typical non-structural repair:

1. De-trim repair area
2. Mask off repair area
3. Prepare repair area by removing gelcoat¹ and/or primer from the repair area via hand or power sanding.
4. Fill repair area with a polyester-based two-part fairing compound² if necessary to bring the repair area "fair" with the adjacent boat surface (similar to auto body repair). Final sand as necessary.
5. Wipe the repair clean with acetone and wipe cloth.
6. Re-finish the repair area with tinted gelcoat (color matched as required) with a final build-up thickness of approximately .020" thickness.
7. Wet sand to remove any application defects.
8. Wax and buff out repair area and adjacent boat surfaces.

The following process summarizes a typical structural repair:

1. De-trim repair area
2. Remove damaged area, structure or feature as indicated by initial evaluation. This process typically involves cutting, grinding, or other mechanical means in order to expose to full are of damage in order to affect a satisfactory repair.
3. Structural repairs necessarily require making a secondary bond to a pre-existing bonded structure in order to complete the repair. Several techniques can be used to insure a sound repair is made. Hand lay-up of new glass-reinforced resin is one method. A similar process using vacuum-assisted tooling is also used in order to clamp the repair area to the adjacent pre-existing structure is also employed. KF&F will use both processes at times to complete a repair of a structural nature. In addition to glass reinforced resin; pre-forms such as wood ribs, stringers, bulkheads, etc., will be part of the final repair. These pre-forms give additional strength to areas requiring it either thru damage incurred to a similar pre-form or because it is deemed necessary as part of the

repair/refurbishing process. Pre-forms are bonded in using layers of glass reinforced resin with the lay-up schedule dependent upon the type of pre-form and adjacent boat structure relative to the repair.

4. Final finish of repair (interior). This usually means replacing removed components that were adjacent to the repair area relative to the inside of the boat.
5. Final finish of the repair (exterior). Process steps are identical to those detailed for completing a cosmetic repair.

A copy of the emission calculation worksheet provided by the ACMA is being included in this report (see Appendix A). The calculator determines the amount of HAP or VOC's emitted on a per unit time basis (e.g., hours, days, etc.). We have used this calculator to help DEQ in assessing what our emission levels are on an lbs/day basis. The calculation we used assumes average emission. It was suggested we also include a calculation assuming maximum shop throughput, meaning that we are spraying everyday of the month at 8 hours/day. See Appendix B. for extreme/maximum resin and gelcoat calculations.

4. Process Summary

The ACMA (American Composite Manufacturers Association) cites five methods for applying styrene-based materials and they are:

1. Manual Application
 - a. Application by way of brush, nap or bead roller, or other means that applies thru mechanical means.
2. Mechanical Atomization
 - a. Application occurs via an atomizing copper gun which brings catalyzed resin and glass reinforcement material together at the same time. Atomization occurs by passing the flow material thru a fine orifice.
3. Mechanical Controlled Spray
 - a. Application occurs via an atomizing copper gun which brings catalyzed resin and glass reinforcement material together at the same time. Atomization occurs by passing the flow material thru a fine orifice. However, unlike (2.), the process is done by trained personnel (e.g., having adopted or trained under a CFA or similar program).
4. Mechanical Non-Atomized Application
 - a. Application occurs using a flow-coat gun. In this process, the resin material is pumped out of the gun at low velocity in a highly controlled flow pattern.
5. Spray Application
 - a. Application using conventional air-type spray-guns. Typical guns used are of the HVLP (high velocity, low pressure) variety.

Of these five types, KF&F will be using Manual and Spray Application techniques. Manual Application will be typically used to hand lay-up of resin and glass reinforcement for all structural repairs. Spray Application is used to apply finish gelcoat.

5. Equipment Summary

<u>Description</u>	<u>Qty</u>	<u>Mfg'er</u>	<u>Model #</u>
208 VAC, 3 phase, 15 HP air compressor	1	Ingersoll Rand	2545E10FP
HVLP spray gun - 2.5 atomizer orifice	2	Graco/Sharpe	F07A
air-operated D/A sander with dust collector	2	Norton	
miscellaneous rollers and brushes			
miscellaneous other air-operated tools with dust collector attachment			
hydraulic lift jacks	4		
miscellaneous finishing tools			
vacuum pump	1	Laco	SYD-07-775
waxer/polisher	2		
miscellaneous wood blocking			
miscellaneous hand tools			

6. Facility Layout Summary

The facility we plan on using is a brand new facility zoned for light industrial use. The facility is located north of Coeur d'Alene, Idaho (Garwood area). The legal description is as follows; Lot 1, Block B Garwood Business Center, Book 1, Page 1 (records of Kootenai County). We are occupying Building Complex E, unit #1.

Currently, the work space is passively ventilated. An active system is being looked at and it is hoped that specifics of this system will become more defined thru this permitting process.

Appendix A.

Material Type	Application Process	Amount Used In Period (lbs/month)	Styrene Content By % Weight	UEF Table Emission Factor (lbs styrene /ton resin or gelcoat) ¹	Styrene Emission Rate (lbs/month)	Comments
catalyzed resin ²	manual	177.00	40.00	123.00	10.89	Assumes 20 gallons per time period and 8.85 lbs/gal.
catalyzed gelcoat	mechanically controlled spraying	54.45	31.00	275.90	7.51	
acetone	manual	30.00				Not considered a HAP.
polyurethane catalyst ³	mechanically controlled spraying	200.00				Some boats required polyurethane spray finishes. The emission factor for HAP's coming from this source is not known by KF&F.

polyurethane base color ³ .	mechanically controlled spraying	200.00				Some boats required polyurethane spray finishes. The emission factor for HAP's coming from this source is not known by KF&F.
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Notes:
1. Obtained from Engineering Environmental Consulting Services Bulletin entitled "Technical Discussion Of The Unified Emission Factors For Open Molding Of Composites", April 7, 1999. Portions of this report obtained from ACMA website.

2. Resin and hardener to be used in calculating the emission rate for total styrene. This number represents catalyzed resin from all sources, i.e., patching, bonding, fairing, etc.
3. Obtained from PPG (Pittsburg Paint and Glass) technical bulletin for Deltron® polyurethane products.

Appendix B.

Calculation For Gelcoat (maximum):

$$\text{Gelcoat_Weight_Per_Gallon} := 10.89 \frac{\text{lb}}{\text{gal}}$$

$$\text{Maximum_Gallons_Gelcoat_Possibly_Sprayed_In_8_Hour_Day} = 5\text{gal}$$

$$\text{Maximum_Weight_Of_Gelcoat_Sprayed_In_8_Hour_Day} = \text{Maximum_Gallons_Gelcoat_Possibly_Sprayed_In_8_Hour_Day} \times \text{Gelcoat_Weight_Per_Gallon}$$

$$\text{Maximum_Weight_Of_Gelcoat_Sprayed_In_8_Hour_Day} = 54.45\text{lb}$$

$$\text{Gelcoat_Emission_Factor} := 275.9 \frac{\text{lb}}{\text{ton}}$$

$$\text{Maximum_Gelcoat_Sprayed_Per_Day} := \text{Maximum_Weight_Of_Gelcoat_Sprayed_In_8_Hour_Day} \times \text{Gelcoat_Emission_Factor}$$

$$\text{Maximum_Gelcoat_Sprayed_Per_Day} = 7.511\text{lb}$$

Calculation For Catalyzed Resin (maximum):

$$\text{Resin_Weight_Per_Gallon} := 8.85 \frac{\text{lb}}{\text{gal}}$$

$$\text{Maximum_Gallons_Resin_Possibly_Manual_Layup_In_8_Hour_Day} = 5\text{gal}$$

$$\text{Maximum_Weight_Resin_Possibly_Manual_Layup_In_8_Hour_Day} = \text{Maximum_Gallons_Resin_Possibly_Manual_Layup_In_8_Hour_Day} \times \text{Resin_Weight_Per_Gallon}$$

$$\text{Maximum_Weight_Resin_Possibly_Manual_Layup_In_8_Hour_Day} = 44.25\text{lb}$$

$$\text{Resin_Emission_Factor} := 123 \frac{\text{lb}}{\text{ton}}$$

$$\text{Maximum_Resin_Layed_Per_Day} := \text{Maximum_Weight_Resin_Possibly_Manual_Layup_In_8_Hour_Day} \times \text{Resin_Emission_Factor}$$

$$\text{Maximum_Resin_Layed_Per_Day} = 2.721\text{lb}$$



DEQ AIR QUALITY PROGRAM
 1410 N. Hilton, Boise, ID 83706
 For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 3
 04/03/07

Please see instructions on page 2 before filling out the form.

COMPANY NAME, FACILITY NAME, AND FACILITY ID NUMBER			
1. Company Name KOOTENAI FIBERGLASS & FINISHING			
2. Facility Name KOOTENAI FIBERGLASS & FINISHING		3. Facility ID No.	
4. Brief Project Description - COSMETIC/STRUCTURAL REPAIR OF FIBERGLASS BOATS One sentence or less			
PERMIT APPLICATION TYPE			
5. <input checked="" type="checkbox"/> New Facility <input type="checkbox"/> New Source at Existing Facility <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modify Existing Source: Permit No.: _____ Date Issued: _____ <input type="checkbox"/> Required by Enforcement Action: Case No.: _____			
6. <input checked="" type="checkbox"/> Minor PTC <input type="checkbox"/> Major PTC			
FORMS INCLUDED			
Included	N/A	Forms	DEQ Verify
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form GI – Facility Information	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form EU0 – Emissions Units General	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Form EU1 - Industrial Engine Information Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Form EU2 - Nonmetallic Mineral Processing Plants Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Form EU3 - Spray Paint Booth Information Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Form EU4 - Cooling Tower Information Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Form EU5 – Boiler Information Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Form HMAP – Hot Mix Asphalt Plant Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Form CBP - Concrete Batch Plant Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Form BCE - Baghouses Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Form SCE - Scrubbers Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Forms EI-CP1 - EI-CP4 - Emissions Inventory- criteria pollutants (Excel workbook, all 4 worksheets)	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	PP – Plot Plan	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Forms MI1 – MI4 – Modeling (Excel workbook, all 4 worksheets)	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Form FRA – Federal Regulation Applicability	<input type="checkbox"/>

DEQ USE ONLY	
Date Received DE/AFS/SF	
RECEIVED OCT - 2 2007 DEPARTMENT OF ENVIRONMENTAL QUALITY STATE AIR PROGRAM	
Project Number	
Payment / Fees Included? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Check Number	



DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 3
03/26/07

Please see instructions on page 2 before filling out the form.

All information is required. If information is missing, the application will not be processed.

IDENTIFICATION

1. Company Name	KOOTENAI FIBERGLASS FINISHING
2. Facility Name (if different than #1)	
3. Facility I.D. No.	
4. Brief Project Description:	REPAIR/SERVICE FACILITY FOR REPAIRING DAMAGE TO FIBERGLASS BOATS (PLEASURE CRAFT ETC.)

FACILITY INFORMATION

5. Owned/operated by: (✓ if applicable)	<input type="checkbox"/> Federal government <input type="checkbox"/> County government <input type="checkbox"/> State government <input type="checkbox"/> City government
6. Primary Facility Permit Contact Person/Title	GREG M. DZIAK, OWNER
7. Telephone Number and Email Address	509. 251. 4872 GDZIAK@COMCAST.NET
8. Alternate Facility Contact Person/Title	MICHAEL HART
9. Telephone Number and Email Address	208. 765. 8142 MICHAELHART@PEOPLEPC.COM
10. Address to which permit should be sent	O/O 9726 NE 5TH
11. City/State/Zip	BELLEVUE, WA 98004
12. Equipment Location Address (if different than #10)	
13. City/State/Zip	
14. Is the Equipment Portable?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
15. SIC Code(s) and NAISC Code	Primary SIC: Secondary SIC (if any): NAICS:
16. Brief Business Description and Principal Product	COSMETIC AND STRUCTURAL REPAIR OF FIBERGLASS BOATS; PRIMARILY PLEASURE CRAFT
17. Identify any adjacent or contiguous facility that this company owns and/or operates	

PERMIT APPLICATION TYPE

18. Specify Reason for Application	<input checked="" type="checkbox"/> New Facility <input type="checkbox"/> New Source at Existing Facility <input type="checkbox"/> Unpermitted Existing Source
	<input type="checkbox"/> Modify Existing Source: Permit No.: _____ Date Issued: _____
	<input type="checkbox"/> Permit Revision
	<input type="checkbox"/> Required by Enforcement Action: Case No.: _____

CERTIFICATION

IN ACCORDANCE WITH IDAPA 58.01.01.123 (RULES FOR THE CONTROL OF AIR POLLUTION IN IDAHO), I CERTIFY BASED ON INFORMATION AND BELIEF FORMED AFTER REASONABLE INQUIRY, THE STATEMENTS AND INFORMATION IN THE DOCUMENT ARE TRUE, ACCURATE, AND COMPLETE.	
19. Responsible Official's Name/Title	
20. RESPONSIBLE OFFICIAL SIGNATURE	Date: _____
21. <input type="checkbox"/> Check here to indicate you would like to review a draft permit prior to final issuance.	

Overview Of Operation
Kootenai Fiberglass & Finishing

RECEIVED
OCT - 2 2007
DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE A Q PROGRAM
DE/AFS/SF

Prepared By: Greg M. Dziak, Owner

Date: 9/24/2007

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Appendix B.

Calculation For Gelcoat (maximum):

Gelcoat_Weight_Per_Gallon := 10.89 $\frac{\text{lb}}{\text{gal}}$

Maximum_Gallons_Gelcoat_Possibly_Sprayed_In_8_Hour_Day= 5gal

Maximum_Weight_Of_Gelcoat_Sprayed_In_8_Hour_Day= Maximum_Gallons_Gelcoat_Possibly_Sprayed_In_8_Hour_DayGelcoat_Weight_Per_Gallon

Maximum_Weight_Of_Gelcoat_Sprayed_In_8_Hour_Day= 54.45lb

Gelcoat_Emission_Factor := 275.9 $\frac{\text{lb}}{\text{ton}}$

Maximum_Gelcoat_Sprayed_Per_Day:= Maximum_Weight_Of_Gelcoat_Sprayed_In_8_Hour_DayGelcoat_Emission_Factor

Maximum_Gelcoat_Sprayed_Per_Day = 7.511lb

Calculation For Catalyzed Resin (maximum):

$$\text{Resin_Weight_Per_Gallon} := 8.85 \frac{\text{lb}}{\text{gal}}$$

$$\text{Maximum_Gallons_Resin_Possibly_Manual_Layout_In_8_Hour_Day} = 5\text{gal}$$

$$\text{Maximum_Weight_Resin_Possibly_Manual_Layout_In_8_Hour_Day} = \text{Maximum_Gallons_Resin_Possibly_Manual_Layout_In_8_Hour_Day} \times \text{Resin_Weight_Per_Gallon}$$

$$\text{Maximum_Weight_Resin_Possibly_Manual_Layout_In_8_Hour_Day} = 44.25\text{lb}$$

$$\text{Resin_Emission_Factor} := 123 \frac{\text{lb}}{\text{ton}}$$

$$\text{Maximum_Resin_Layed_Per_Day} := \text{Maximum_Weight_Resin_Possibly_Manual_Layout_In_8_Hour_Day} \times \text{Resin_Emission_Factor}$$

$$\text{Maximum_Resin_Layed_Per_Day} = 2.721\text{lb}$$



DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
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PERMIT TO CONSTRUCT APPLICATION

Revision 3
03/27/07

Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
Company Name: 3 FINISHING		Facility Name: KOOTENAI FIBERGLASS FINISHING		Facility ID No:		
Brief Project Description:						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
1. Emissions Unit (EU) Name:						
2. EU ID Number:						
3. EU Type:		<input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #: Date Issued:				
4. Manufacturer:		GRACO / SHARPE, 2.5 ORIFICE, SPRAY GUN				
5. Model:		F07A, QTY 2				
6. Maximum Capacity:		SEE SUPPLEMENTARY INFO.				
7. Date of Construction:		BRAND NEW (2007)				
8. Date of Modification (if any)						
9. Is this a Controlled Emission Unit?		<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 18.				
EMISSIONS CONTROL EQUIPMENT						
10. Control Equipment Name and ID:						
11. Date of Installation:		12. Date of Modification (if any):				
13. Manufacturer and Model Number:						
14. ID(s) of Emission Unit Controlled:						
15. Is operating schedule different than emission units(s) involved?		<input type="checkbox"/> Yes <input type="checkbox"/> No				
16. Does the manufacturer guarantee the control efficiency of the control equipment?		<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)				
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO
17. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
18. Actual Operation		SPORADIC; 2 HR/DAY FOR AN AVERAGE				
19. Maximum Operation		SPORADIC; 8 HR/DAY				
REQUESTED LIMITS						
20. Are you requesting any permit limits?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, check all that apply below)				
<input type="checkbox"/> Operation Hour Limit(s):						
<input type="checkbox"/> Production Limit(s):						
<input checked="" type="checkbox"/> Material Usage Limit(s):		IF A LIMIT IS NECESSARY.				
<input type="checkbox"/> Limits Based on Stack Testing		Please attach all relevant stack testing summary reports				
<input type="checkbox"/> Other:						
21. Rationale for Requesting the Limit(s):		DO NOT ANTICIPATE THE NEED FOR A LIMIT, WE WOULD EITHER CHOOSE TO LIMIT MATERIAL USAGE OR ADD EMISSION CONTROL EQUIPMENT				

CHUCKY LEWIS